

**GRANT-PLATTE RIVERS
STATE OF THE BASIN REPORT**

VOLUME 5

LITTLE PLATTE RIVER WATERSHED NARRATIVE

(GP03)

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GP03 Map

LITTLE PLATTE RIVER WATERSHED (GP03)

The Little Platte River watershed is a 155 square mile watershed in eastern Grant County and the southwest corner of Iowa County and northwest corner of Lafayette County. It is tributary to the Platte River in southern Grant County. The topography is rolling with streams incised in smaller, often steep-sided valleys. This lends to rapid runoff during storm events and major snowmelts. Soil loss is a problem in the watershed, as it is in most watersheds in the unglaciated southwest part of the state. Average annual soil loss in the watershed has been estimated at 7.5 tons per acre per year (Fix, 1991). The streams in the watershed and the watershed in general have been ranked as a high priority with respect to non-point source pollution. The groundwater is at risk for potential contamination.

The watershed is predominantly agricultural with a mixture of dairying, cash cropping and feeder operations. Cultivation occurs on the ridgetops and on valley floors. Grazing usually occurs adjacent streams. The steeper valley slopes are left in woodlots. As with the other watersheds in the basin, the number of farms have been decreasing while average size of farms are increasing. Agricultural non-point pollution in the watershed has affected most streams in the watershed

There are 184 stream miles in the Little Platte River watershed, with 105 miles of named streams. Streams in the watershed are very flashy and water levels rise and drop quickly due to runoff events. Streams in the watershed have instream habitat impairments due to non-point sources of pollution, primarily from runoff from cultivated fields and barnyards, and from excessive grazing of streambanks. There are 67.5 miles of warm water sport fishery in the watershed, and only one stream with a cold water fishery segment, the Little Platte River. The Little Platte is also on the state's Exceptional Resource Waters (ERW) list. The Little Platte River has excellent sport fishing for smallmouth bass (Lyons, 2000). Whig Branch and Snowden Branch were added to the state's impaired waters list in 1998. Other streams in the watershed are likely to be added when the impaired waters list is updated. The Little Platte River watershed is being considered by the Nature Conservancy as a high priority area for aquatic conservation work. This should increase the potential for local private-public partnerships to benefit some of the streams in the watershed (Lyons, 2000).

There are at least 17 abandoned mines and at least that many known mining waste piles in the watershed (Fix, 1991). Mine waste piles in other parts of southwest Wisconsin have been documented as sources of pollution and degradation to some streams. There are also an unknown number of mine airshafts in the watershed (Webber, 1998). It is not known what effect, if any, these mines and airshafts are having on groundwater or surface water quality.

A major reconstruction of US Highway 151 from Dickeyville to Belmont is scheduled to begin in the year 2002. Sediment coming from the highway construction could threaten instream habitat and fisheries of the Little Platte River, Blockhouse Creek and Rountree Branch if adequate erosion control measures are not installed and properly maintained. Because of the topography of the area such measures may need to go beyond the standard Wisconsin Department of Transportation measures. The streams potentially threatened are Rountree Branch near Platteville and McAdam Branch near Dickeyville.

Public recreation is limited in the watershed. Platteville does offer public parks and a walking/bike trail along Rountree Branch. Public access to streams is limited to bridge crossings, although the DNR does have some fishing easements on sections of the Little Platte River. The

Pecatonica State Trail, to run from Calamine in Lafayette County to Platteville, is not complete between Platteville and Belmont. Once the trail is finished, the back roads near Platteville will offer the better-conditioned bikers challenges and scenic rides. There are many woodlots in the watershed, mostly on the steeper slopes, which provide good wildlife habitat. Hunting is allowed on private lands with the permission of the owner. Platteville is the site of the University of Wisconsin-Platteville, the only four-year university or college in the basin.

Platteville (10,031) and **Livingston** (570) have municipal wastewater treatment plants which discharge to surface waters in the watershed. Two mobile home parks, **Oak Park Community** and **GCA Evergreen Village**, also have permitted wastewater discharges in the watershed. Platteville is the largest municipality in the Grant-Platte Rivers basin. Its 2000 estimated population was just under 10,000. Platteville, while growing slowly, is generating stormwater and sediment from construction sites which can affect instream water quality, habitat, and fisheries. Platteville has recently passed a construction site erosion control ordinance and is beginning to address community wide stormwater management planning. In addition, Platteville is developing a sewer service area (SSA) plan. Such plans are required for municipalities with populations over 10,000. These plans are a means of planning for cost-effective sewered growth. Stormwater management issues are expected to be addressed through this planning process.

SURFACE WATER NARRATIVES

Blockhouse Creek - Blockhouse Creek is a seepage and spring fed tributary to the Little Platte River south of Platteville. The stream flows through a scenic country valley characterized by wooded steep sided slopes. There is a unique natural area through which the stream flows in its central portion. Historically, the stream had a reproducing smallmouth bass fishery (Smith and Ball, 1971). The smallmouth bass population in the stream has not been recently evaluated. There is some public access along the stream. Non-point sources of pollution are affecting instream habitat. Some pollution intolerant species listed on Wisconsin's threatened and endangered species list have been found in Blockhouse Creek.

Little Platte River - The Little Platte River rises in Livingston and flows southerly to its confluence with the Platte River near Dickeyville. Many reaches of the stream flow through scenic rural landscapes including some areas with steep limestone bluffs that rise above the river. White pine dominates some of the steep bluffs creating micro-ecosystems generally uncommon in this area.

The headwaters of the Little Platte River are in the Village of Livingston. From the headwaters downstream 1.5 miles the stream is classified as a Limited Forage Fishery (LFF) stream. The stream is considered to be a class II trout stream (WDNR, 1980) from the LFF reach downstream four miles. The remainder of the Little Platte is classified as a warm water sport fishery (WWSF) and a regionally important smallmouth bass fishery stream, second only to the Galena River in southwest Wisconsin. The significance of the smallmouth bass fishery is one reason the stream was put on Wisconsin's Exceptional Resource Waters (ERW) list. The smallmouth bass fishery of the Little Platte has seen fluctuations in populations over the years (Mason et.al., 1993). Monitoring conducted in 1993 found few bass in the Little Platte River, however, 1996 monitoring indicated that the Little Platte had one of the best smallmouth bass populations in southwestern Wisconsin, a significant rebound in population from the 1993 survey (Wang et.al., 1996).

It appears that a number of factors may affect the bass populations. Major runoff events, particularly during the critical late spring period, appear to have an adverse impact on populations. These runoff events are usually associated with dissolved oxygen levels that often fall below water quality standards. Non-point sources of pollution such as excessive streambank pasturing, streambank erosion, and runoff from barnyards and cultivated fields, can and do have an effect on instream habitat and water quality and aquatic life. Populations are higher in years of few, or smaller, major runoff events and when baseflow (average stream flow during dry periods) is higher.

Due in part to the stream's value as a smallmouth fishery and to the threats the stream faces from non-point source pollution, volunteer citizen stream monitors have taken an interest in the stream and have been collecting data at two locations on the Little Platte River, one site is above the Highway 80 bridge in Arthur, the other is 300 feet upstream from Maple Ridge Road (Trout Unlimited 2001).

Samples taken at both sites last spring and summer found good temperatures and dissolved oxygen. Spring and summer NTU values (Nephelometric Turbidity Units), or the measure of water clarity or turbidity, were fair to good. Overall, most samples were below the stress level, although on certain days, NTU's were high. Low water clarity, or high turbidity is often an indication of a problem with non-point source pollution. The higher the volume of solids in the water column, the lower the water clarity. After a rainfall event, turbidity readings are generally higher (Trout Unlimited, 2001).

The monitors began to take samples again this past March, 2001 at the Arthur site. Dissolved oxygen levels were lower, but still sufficient, as a result of cooler temperatures, and with the exception of March 19, all turbidity values were below the stress level (Trout Unlimited, 200).

In addition to its value as a smallmouth bass stream, the Little Platte River has been known to be home for some rare aquatic species. Two pollution intolerant species listed on the Wisconsin threatened and endangered species list have been found in the Little Platte River.

The only permitted wastewater discharge to the Little Platte River is from the Village of Livingston. Livingston has had a problem with the operation of its wastewater treatment system. High flows and equipment malfunctions have led to bypassing of untreated sewage to the Little Platte. The Village has taken steps to address and correct these problems.

Mounds Branch - Mounds Branch is a tributary to the Little Platte River just outside of Platteville. The stream did have a minor smallmouth bass fishery, however, poor agricultural practices including excessive streambank grazing and erosion, and barnyard runoff resulted in fish kills and other water quality problems (Fix, 1991). The sources of the stream's water quality problems were identified and the problems have since been cleaned up, however, no new monitoring data has been collected to determine if the game fishery has been restored. (Vollrath, 1998). New large-scale animal operations have been proposed in Mounds Branch sub-watershed. The siting of these operations and the waste management from these facilities will be an important issue in maintaining stream health. One species listed on the state's threatened and endangered species list had historically been found along Mounds Branch (WDNR, 1997). This species is very sensitive to water pollution.

Rountree Branch – A more detailed description of Rountree Branch and its sub-watershed can be found in Volume 2. Rountree Branch is a seepage and spring fed tributary to the Little Platte River just west of Platteville. The stream is considered a smallmouth bass nursery in its lower reaches. In the 1960's the stream was considered to have no fisheries value due pollution from various sources in and near Platteville (Smith and Ball, 1972). These sources included industrial and municipal point sources, abandoned mining waste piles, and urban and agricultural non-point sources of pollution. Water quality and instream habitat conditions have improved generally since then and the stream is capable of supporting at least a limited sport fishery (Fix, 1991). Recent evaluations by fisheries biologists have resulted in a recommendation to consider 6 miles of Rountree as a class II trout fishery (WDNR,2000).

While conditions have improved, there are still problems. The State Laboratory of Hygiene biomonitoring tests done in 1998 showed that water samples taken from Rountree were chronically toxic to *Ceriodaphnia dubia*, a small aquatic organism. Metals are the most likely source of the toxicity (Wisconsin State Laboratory of Hygiene, 1998). Elevated zinc levels in the water column have been detected in some monitoring done in 1996 at one location on the stream and recent monitoring has shown that the concentration of lead, zinc and copper increased dramatically during a large rainfall event (WDNR, 1998; Marshall 1999). In addition, urban non-point sources of pollution from Platteville and agricultural non-point sources are still a problem.

The City of Platteville's wastewater treatment plant discharges to Rountree Branch. It is a generally well-run facility. GHC Evergreen Village, Inc. on the east edge of Platteville also has a permitted wastewater discharge to the stream. In 1999, a dairy processing operation requested water quality based limits be determined for a proposed discharge to Rountree.

A local group has been formed in Platteville to enhance Rountree Branch. The primary goals of this group are to establish a sport fishery in one reach of the stream and build a recreational trail along the stream. Overall, there are a variety of groups interested Rountree Branch. For a complete list of groups and their activities, see Volume 2.

Snowden Branch - Snowden Branch is a seepage and spring fed tributary to Blockhouse Creek near Dickeyville. The reach downstream of County Trunk Highway D flows through a scenic narrow valley with wooded hillsides. A portion of the stream was once considered to be trout waters (Smith and Ball, 1972), but it is not presently listed or managed for trout. The lower reaches of the stream does have a limited smallmouth bass fishery (Fix, 1991). A pollution intolerant species found on Wisconsin's threatened and endangered species list has historically been found in Snowden Branch (Sims, 2000).

During the 1970's and 1980's, water quality, instream habitat and fisheries were severely affected by non-point source pollution in the 70's and 80's. At the time, the main source of this degradation was runoff from a large animal feeding operation that carried manure and sediment to the stream, and excessive grazing along a reach of the stream. The overall effect was the loss of biological and recreational and led to the listing of Snowden Branch on the state's list of impaired waters. Since that time, these problems have been addressed and as shown by recent monitoring, the stream appears to have improved (Sims, 2000). Despite this improvement, more could be done to improve the health of the stream and the aquatic communities that inhabit Snowden Branch. In addition to problems with non-point source pollution, fish migration is limited by an improperly located town road bridge. A local conservation group in cooperation with the DNR is embarking on a project to continue to restore and improve the cold water fishery

on Snowden Branch through streambank stabilization, streambank easements, and instream habitat improvements. The stream has also become the focus of a citizen monitoring project. A site of the stream below the bridge on Big Patch Road was sampled for water clarity, water temperature, dissolved oxygen, flow, and habitat (Trout Unlimited 2001).

RECOMMENDATIONS FOR THE LITTLE PLATTE RIVER WATERSHED

Non-point Source Pollution

- ◆ The **City of Platteville**, with the assistance of the DNR, Southwestern Wisconsin Regional Planning Agency, and Southwest Badger RC&D, should develop a sewer service area plan to help manage cost effective provision of sewer services and to protect environmental resources within their planning area.
- ◆ The **City of Platteville**, with the assistance of the DNR, Southwestern Wisconsin Regional Planning Agency, and Southwest Badger RC&D, should address stormwater management issues and problems in the city.
- ◆ The **Little Platte River watershed** should be considered by the DNR, Wisconsin Department of Agriculture, Trade and Consumer Protection, and Grant County as a high priority candidate a non-point source pollution abatement project. Specifically, Targeted Runoff Management (TRM) or EQIP projects should be considered by the DNR and Grant County for all or portions of **the Little Platte River, Blockhouse Creek, Mounds Branch, Rountree Branch**, and/or **Snowden Branch**.
- ◆ The DNR should work closely with the Wisconsin Department of Transportation staff, Southwestern Wisconsin Regional Planning Commission, and with Grant and Lafayette County LCD staff on reviewing erosion control measures associated with the reconstruction of US Highway 151 to assure maximum protection of nearby streams.

Protecting and Improving Water Quality and In-Stream Habitat

- ◆ The DNR, with the assistance of Integrated Science Services staff, should conduct basin assessment monitoring to assess existing instream fisheries habitat conditions should be done for the **Little Platte River watershed** focusing on **Blockhouse Creek**, and **Mounds Branch**.
- ◆ The DNR, with the Wisconsin State Laboratory of Hygiene should conduct additional monitoring and investigation on **Rountree Branch** to determine if metals constitute a water quality problem, the extent and source(s) of any heavy metal pollution.
- ◆ The DNR should monitor **Blockhouse Creek, Little Platte River**, and **Mounds, Rountree and Young Branches** to track the status of state endangered and threatened species and species of concern.
- ◆ The DNR in partnership with the Friends of Rountree Branch, Trout Unlimited, University of Wisconsin-Platteville, the Grant County Land Conservation Service and the U.S. NRCS should continue work on improving the cold water fishery on a reach of **Rountree Branch** at Platteville.

- ◆ The DNR in partnership with Trout Unlimited, the Grant County Land Conservation Service and the U.S. NRCS should evaluate the feasibility of establishing a cold water fishery on a reach of **Snowden Branch** near Platteville.
- ◆ The **GCA Evergreen Village, Inc.** should discontinue operation of its wastewater treatment facility and send its effluent to the City of Platteville wastewater treatment plant for treatment.
- ◆ The DNR, with assistance from the Grant County LCD and local conservation and watershed groups, should identify opportunities for restoration or better protection of riparian habitat and in-stream habitat on reaches of the **Little Platte River, Blockhouse Creek and Snowden Branch**.
- ◆ **Rountree Branch** should be monitored and considered for addition to Wisconsin's list of impaired streams due to degradation from non-point sources of pollution and problems with failure of WET toxicity tests.
- ◆ The following streams should be monitored to determine if the streams should be considered for addition to the state's list of impaired waters due to adverse instream habitat impacts from non-point pollution sources by the year 2002 as required by section 303(d) of the Federal Clean Water Act: **Blockhouse Creek and Mounds Branch**.

Outdoor Recreation, Wildlife Habitat and Protecting Open Space and Farmland

- ◆ The DNR should encourage the establishment of open space buffers around **Ipswich Prairie Natural Area** through educational and financial incentives.
- ◆ The **City of Platteville**, with the assistance of the other governmental agencies and local conservation or watershed groups, should identify opportunities to protect riparian habitat, add public open space, recreation lands and/or public access along **Rountree Branch, Little Platte River, Blockhouse Creek and Snowden Branch**.